Scutellariae radix, and balicalein. However, the other ingredient did not show any ameliorating effects on the total infarction volume. The inhibiting effect of Scutellariae radix on the total infarction volume was more potent than that of the others. In addition, HHDT, Scutellariae radix, and baicalein significantly inhibited myeloperoxidase (MPO) activity, an index of neutrophil infiltration in ischemic brain tissue at about same rate (30%). There was marked mismatch between total infarction volume and MPO activity in the Scutellariae radix-treated rats but not in the HHDT- and baicalein-treated group. Our findings suggest that Scutellariae radix as an ingredient of HHDT plays a crucial protective role in ischemia-induced brain injury by inhibiting neutrophil infiltration. In addition, it is apparent that the effect of Scutellariae radix is the result, in part, of baicalein, a compound contained in Scutellariae radix.
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[PB3-9] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

The neuroprotective activities of the Panax ginseng in the transient ischemic model in rats.

Kim Min Sun°, Hwang Young Sun, Choo Min-Kyung, Kim Dong-Hyun, Ryu Joong Hoon

College of Pharmacy, Kyung Hee University, 1 Hoeki-dong, Dongdeamoon-ku, Seoul 130-701, Korea

Panax ginseng C. A. Meyer, a traditional chinese herb, has many pharmacological effects on memory, learning, physical stress, fatigue, etc. However, several lines of evidences suggest that ginseng root plays a role in the neuroprotection. Therefore, we studied to investigate the possible neuroprotective activities of various ginseng extracts and its chemical processed compounds in ischemia-reperfusion brain injury. They were orally administered one time (100 mg/kg), promptly prior to reperfusion. Rats were subjected to 120 min of focal cerebral ischemia by means of the filament method of middle cerebral artery occlusion (MCAo). After 120 min transient-MCAo, reperfusion was achieved by pulling the filament out of the ICA under the anesthetic conditions. After 22 hr of reperfusion, infarct size was measured and neurological function was quantified. Metabolites fraction of Ginseng BuOH extract and Ginseng BuOH extract-treated with mild acid showed significant decreases of infarct size. The neuroprotecting effects of other materials are under study.[Spported by NACF grant].

[PB3-10] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Regulation of taurine transporter, TAUT, in a brain endothelial cell lines

Kang YoungSook° , Terasaki Tetsuya

College of Pharmacy, Sookmyung Women's University, Korea, New Industry Creation Hatchery Center, Tohoku University, Japan

The activity of taurine transport in the brain endothelial cells was investigated using conditionally immortalized rat brain capillary endothelial cell lines (TR-BBB). The uptake of [^{3}H]taurine in the TR-BBB was increased by time-dependently and was dependent on both sodium and chloride ion. Furthermore, β-alanine strongly inhibited the uptake of [^{3}H]taurine in the TR-BBB. Taurine transporter (TAUT) was expressed in TR-BBB using RT-PCR and TAUT expressed at about 70 kDa was revealed by Western blot analysis in TR-BBB.
Considering taurine neuroprotective and osmoregulatory functions in brain endothelial cells, experiments were performed to study the effects of TNF-α, taurine or raffinose on taurine uptake in TR-BBB. TR-BBB exposed to 20 ng/ml of TNF-α for 12h showed 1.7 fold increase in taurine uptake and significant uptake increase was observed after 24h exposure. But taurine uptake was significantly decreased time-dependently by incubating the cells in the same medium containing exogenous taurine. Aiso, the uptake of
[^{3}H]taurine in the TR-BBB was 3.2 fold increased by hypertonic condition after 24h exposure. The